Intelligent Plenum Air Management Module

# RMS User Manual

# 1. Welcome

Congratulations on your purchase of the iPAMM RMS. The iPAMM RMS upgrades the iPAMM to an enterprise level cooling device by enabling remote monitoring and configuration capabilities. To fully understand the iPAMM system this document should be read in conjunction with the iPAMM User Manual.

This document firstly outlines the network installation procedure for a new iPAMM RMS. Following this, the iPAMM Web and SNMP interfaces are described in detail. The essential getting started information is just below for reference.

If you have any questions or comments please don't hesitate to contact the staff at Server Racks Australia!

**Getting Started Information**

Default IP Address       - 192.168.0.200

Default HTTP Username       - admin

Default HTTP Password       - password

Default FTP Username       - admin

Default FTP Password       - password

# 2. Network Installation

This section provides detailed instructions for how to configure the network parameters on the iPAMM RMS. Please read through the recommendations below before beginning the installation.

**Recommendations**

- Only install one RMS at a time

- Ensure you have the latest firmware by contacting Server Racks Australia.

- Ensure you know the required settings for your iPAMM RMS before starting

  ○ Will the IP address be assigned manually or through DHCP?

  ○ What will be the assigned MAC Address (only when more than one iPAMM RMS is present)?

  ○ What is the required NetBIOS name?

**Network Installation Procedure**

Please follow the procedure below to complete the Network Installation of your iPAMM RMS.

1.  Ensure that the power and Ethernet are connected to the iPAMM RMS.

2.  Turn on the power and ensure that the red light is flashing on the iPAMM. This can be seen next to the Ethernet port.

3.  Connect to the web interface using the default IP address http://192.168.0.200 or using the default NetBIOS name http://iPAMMMASTER

4.  When prompted, enter the default user name 'admin' and password 'password' without the inverted commas.

5.  Click on Network Settings on the navigation bar at the top of the page.

6.  Depending on how you require the RMS network interface to be set up:

    ■  Static IP Address

       •  IP Address set to required IP address, click APPLY.

       •  Gateway Address set to required IP address, click APPLY.

       •  Subnet Mask set to required value, click APPLY.

       •  DHCP and IP Gleaning set to Disabled.

    ■  Dynamic IP Address

       •  DHCP and IP Gleaning set to Enabled.

       •  IP Address, Gateway Address and Subnet Mask all assigned by DHCP

    Note that changing the TCP/IP settings may cause your computer to lose it connection to the iPAMM. To reconnect, we suggest navigating to the new address using the new IP address in your browser.

7.  If more than one RMS is going to be installed, please ensure that no iPAMM RMS has the same MAC address as another iPAMM RMS on the same network. This is done by changing the MAC Address on the Network Settings page.

    Similarly to changing the IP Address, changing the MAC address can interrupt the connection to the iPAMM. To resolve this, we suggest opening the command prompt (Start → Run → Type 'cmd' → Click OK) then run the following command.

    arp -d

    This should clear the Address Resolution Protocol table. It should now be possible to access the iPAMM using the existing IP address. Note that if the IP address is assigned using DHCP, a new IP address should be expected. To find out what this address is may require access to the DCHP lease table.

8.  If a NetBIOS name is to be assigned to the iPAMM ensure that NBNS is enabled and that the correct NetBIOS Name is set under the Network Settings page.

**Security**

To ensure your iPAMM is safe from malicious attack, please ensure it is used on a secure network. The following settings are suggested for security purposes.

- Network Settings - FTP Server – Disabled.
    - This should only be enabled when a firmware update is about to be performed.
- Commands – Protect All Web Pages – Enabled.
    - This ensures that a username and password are required to access the iPAMM RMS web interface for all pages. If disabled, only pages that allow configuration require a username and password to access.
- Commands – HTTP Username – Should be changed from the default.
- Commands – HTTP Password – Should be changed from the default.
- Commands – FTP Username – Should be changed from the default.
- Commands – FTP Password – Should be changed from the default.

# 3. Web Interface

This section describes the functionality of all the elements on each page on the iPAMM web interface in detail.

**Status Page**

The Status page shows the status of the iPAMM and the RMS. The Status page automatically refreshes every five seconds.

- **Code Version**- Shows the current code version running on the iPAMM.

- **Current IP**- Shows the current IP address of the iPAMM.

- **Door Status**- Shows the status of the door sensor.

- **Temperature A/B**- Shows the temperature on sensors A and B in degrees Celsius.

- **External Temperature**- Shows the temperature on the External Temperature Sensor in degrees Celsius.

- **Fan Speed**- Shows the Fan Speed in rpm.

- **Fan Power**- Shows the current duty cycle of the fan. A duty cycle of 0 indicates that the fan is not powered. A duty cycle of 1023 indicates that the fan is running at full power.

- **Fan Cumulative On Time**- Shows the speed adjusted, cumulative running time of the fan. If the fan is running at half the rated speed, the timer increases by 1 second every 2 seconds. At full speed, the counter increases by 1 second per second. If the fan is stopped, the timer does not increase.

- **Session On Time**- Shows the on time of the current session (time since last reset or power on).

- **Cumulative On Time**- Shows the cumulative on time of the iPAMM.

**Fan Settings**

- **Turn-On Temperature** - The temperature in degrees Celsius above which the fans will turn on. Note that a hysteresis of two degrees exists such that the fan will continue to run until the temperature drops two degrees below the Fan Turn-On Temperature. The Turn-On Temperature must be above zero degrees and equal to or less than the Full Speed Temperature.

- **Full Speed Temperature**- The temperature in degrees Celsius above which the fan will operate at maximum power. The Full Speed Temperature must be less than 100 degrees and equal to or greater than the Turn-On Temperature.

- **Minimum Duty Cycle**- The minimum duty cycle that the fan will be operated at. A Minimum Duty Cycle of 0 will allow the fans to stop if the temperature drops two degrees below the Turn-On Temperature. A minimum duty cycle of 150 will ensure that the fans are always running at a slow speed. A Minimum Duty Cycle of 1023 ensures that the fans run at full speed all the time. The Minimum Duty Cycle can be set to 0 or between 150 and 1023.

- **Number of Fans**- Is used in error reporting for fan failures. Set this value to the number of fans present in the iPAMM. The number of fans can be 0, 1 or 2.

- **Apply Changes**- Saves the values entered on the Fan Settings Page.

**Network Settings**

- **IP Address**- The iPAMM will request this IP address from the network DHCP server or will display the address assigned by the server if DHCP and IP Gleaning is enabled.

- **Gateway Address**- The iPAMM will request this gateway address from the network DHCP server or will display the address assigned by the server if DHCP and IP Gleaning is enabled.

- **Subnet Mask**- Can be used to specify a subnet mask or shows the current subnet mask is DHCP and IP Gleaning are enabled.

- **DHCP and IP Gleaning**- When enabled, the iPAMM will force an address, gateway and subnet mask request on reboot.

- **FTP Server**- Allows the FTP server to be enabled or disabled. The FTP server must be enabled to allow a new file system to be loaded via FTP. It is recommended that this service be disabled when not needed.

- **NBNS**- NetBIOS Name Service. If enabled, the iPAMM will respond to NBNS packets and names.

- **SNMP Receiver Address**- Used to specify where the SNMP Traps will be sent.

- **SNMP Traps**- Allows SNMP Traps to be enabled or disabled.

- **Test Trap**- Sends a test SNMP Trap to the SNMP Receiver Address.

- **MAC Address**- Allows a six byte MAC address to be assigned to the iPAMM. This must be unique for each device on a network segment. The address is shown in decimal notation.

**Command Page**

- **Protect All Web Pages**- Requires authentication to view any page on the iPAMM when enabled. Allows pages that do not provide access to configuration information to be viewed without authentication when disabled.

- **Restore Defaults, Save and Reboot**- Restores the default settings for the iPAMM and reboots the system.

- **Reboot Ethernet Interface**- Reboots the ethernet interface only.

- **Reboot System**- Reboots the entire iPAMM system, including the fan controllers.

- **Http Username and Password**- Allows the HTTP username and password to be changed.

- **Ftp Username and Password**- Allows the FTP username and password to be changed.

## 4. SNMP

To setup SNMP access to the iPAMM RMS, the MIB file is required. Please contact Server Racks Australia if you do not have a copy of the iPAMM RMS MIB file. The following settings are required to be configured for SNMP to operate correctly.

- **SNMP Community –** This value will need to match the value used by the SNMP Manager to access the iPAMM. The SNMP Community string is similar to a password.

- **SNMP Receiver Address** - Used to specify where the SNMP Traps will be sent.

- **SNMP Traps**- If enabled, SNMP traps will be sent from the iPAMM RMS to the SNMP Receiver Address.

To send a test trap, click APPLY next to Test Trap.